

WHAT IS CLAIMED IS:

1. A method for manufacturing circuit devices comprising:

5 preparing a laminated plate by laminating a first conductive film and a second conductive film via a third conductive film;

forming a conductive wiring layer by etching said first conductive film into a desirable pattern;

10 removing said third conductive film by use of said conductive wiring layer as a mask;

covering front-surface portions of the second conductive film exposed by removing said third conductive film, said conductive wiring layer, and end faces of the third conductive film with an insulating layer;

15 partially exposing said conductive wiring layer by removing a part of said insulating layer;

fixedly fitting semiconductor elements onto said insulating layer and electrically connecting said semiconductor elements with said conductive wiring layer;

20 covering said semiconductor elements with a sealing resin layer; and

removing said second conductive film to expose said third conductive film on the rear surface.

2. The method for manufacturing circuit devices as set forth in Claim 1, wherein

    said conductive wiring layer is formed by performing etching up to said third conductive film.

5       3. The method for manufacturing circuit devices as set forth in Claim 2, wherein

    a solution to etch said first conductive film is used.

    4. The method for manufacturing circuit devices as set forth in Claim 2 or 3, wherein

10      as said solution for performing said etching, a solution containing ferric chloride or cupric chloride is used.

    5. The method for manufacturing circuit devices as set forth in Claim 1, wherein

15      said third conductive film is removed by electrolytic peeling.

    6. The method for manufacturing circuit devices as set forth in Claim 1, wherein

    said third conductive film is removed by etching by use of a solution to etch said third conductive film.

20      7. The method for manufacturing circuit devices as set forth in Claim 6, wherein

    said solution is an iodine-based solution.

    8. The method for manufacturing circuit devices as set

forth in Claim 1, wherein

    said second conductive film is entirely etched.

9. The method for manufacturing circuit devices as set forth in Claim 1, wherein

5       said second conductive film is formed thicker than said first conductive film.

10. The method for manufacturing circuit devices as set forth in Claim 1, wherein

10      said insulating layer can be a thermoplastic resin, a thermosetting resin, or a photosensitive resin.

11. The method for manufacturing circuit devices as set forth in Claim 1, wherein

15      said first conductive film and said second conductive film are metals made of copper as a main material, and said third conductive film is a metal made of silver as a main material.

12. The method for manufacturing circuit devices as set forth in Claim 1, wherein

20      said laminated plate is manufactured by laminating said third conductive film and said first conductive film by electroplating while using said second conductive film as a base.

13. The method for manufacturing circuit devices as set

forth in Claim 1, wherein

    said laminated plate is formed by rolling.

14. The method for manufacturing circuit devices as set forth in Claim 1, wherein

5       said exposed and plated first conductive film parts and electronic components, excluding semiconductor elements, are electrically connected.

15. The method for manufacturing circuit devices as set forth in Claim 1, wherein

10       said insulating layer is formed by vacuum press or vacuum lamination.

16. The method for manufacturing circuit devices as set forth in Claim 1, wherein

15       said insulating layer is partially removed by laser processing.

17. The method for manufacturing circuit devices as set forth in Claim 1, wherein

    said insulating layer is partially removed by a lithographic method.

20       18. The method for manufacturing circuit devices as set forth in Claim 1, wherein

    by electrolytic plating using said second conductive layer as an electrode, a plated layer is formed on the exposed

parts of said conductive wiring layer.